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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/821,187

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Sung-hee Hwang

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EXAMINER

ORTIZ CRIADO, JORGE L

ART UNIT

PAPER NUMBER

2627

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/821,187	<b>Applicant(s)</b> HWANG ET AL.	
	<b>Examiner</b> JORGE L. ORTIZ CRIADO	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17, 28-32 and 39-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17, 28-32 and 39-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 101*

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 39 and 40 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 39 and 40 are drawn to a computer readable medium having stored thereon a computer program, where the computer readable medium as defined in the specification can be a signal or carrier wave; therefore, fail(s) to fall within a statutory category of invention.

A claim directed to a computer readable medium having stored thereon a computer program, where the computer readable medium as defined in the specification can be a signal or carrier wave or paper, covers a signal or carrier wave or paper which are non-statutory as noted, *infra*.

A claim directed to a computer program itself or signal or carrier wave is non-statutory because it is not:

A process occurring as a result of executing the program, or

A machine programmed to operate in accordance with the program, or

A manufacture structurally and functionally interconnected with the program in a manner which enable the program to act as a computer component and realize its functionality, or

A composition of matter.

A claim directed to a paper having thereon a computer program is non-statutory, because it covers printed matter which is non-statutory. It is not until the program is converted into an

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electronic form to be read and executed by the processor that it becomes functional descriptive material. There is no functional relationship between the paper and the computer program (see *In re Gulack*, 217 USPQ 401, *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed.Cir.1994)).

The program as disclosed is merely printed on the paper, hence the program is merely non-functional descriptive material, therefor, the claimed paper with a computer program printed on it is non-statutory. See *Ex parte S*, 25 JPOS 904, *Ex parte Glenn*, 155 USPQ 42, *In re Lockert*, 65 F.2d 159, 17 USPQ 515.

See MPEP § 2106.01. Data structures not claimed as embodied in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14-17, 28-32, 40 and 60 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The above claims recite the phrase “defect management on/off mode”. It is not clear what the applicant is intending to encompass with “/”. A selection is made from such defect management "on/off", but it is not clear whether is a selection from an "on mode" and "an off" mode or a selection of “on/off” mode at the same time, making the claims indefinite.

It appears that the claims are best understood if a selection is made between a defect management on mode and a defect management off mode.

Claims 57 recites the final defect management area is “filled in” and at the same time recites prevent the apparatus from writing the same, it is unclear what is encompassed by "filled in", since the claims does not set forth what or how is being filled and which contradicts for preventing from being written. This opposite language makes the claim indefinite and unascertainable.

Claim 60 appears to be drawn to a recording medium comprising the recited areas as claimed, however it further recites an apparatus performing transfer of data to the optical

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recording medium. It is not clear what is intended to be encompassed with this claim, whether a recording medium or an apparatus. Applicant cooperation is respectfully requested.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3, 5, 6, 8, 10, 11, 13, 14, 16, 28, 31, 39, 40, 41-46, 48-53, 56 and 60 are rejected under 35 U.S.C. 102(b) as being anticipated by Ko US. Patent Application Publication 2002/0105868.

Ko discloses a method of recording data on a recording medium, the method comprising: selecting a defect management mode selectable between a defect management on mode and a defect management off mode so that the selected mode indicates whether defect management is to be performed on the recording medium; recording the data on the recording medium while defect management is performed on the recording medium, if the defect management on-mode is selected; and recording the data on the recording medium without defect management, if the defect management off mode is selected (DM mode; see figs. 8 and 9; linear replacement management etc.).

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As per claim 2, Ko discloses that when defect on mode, (i.e. defect management performed linear replacement management), wherein recording of the data in the defect management on mode comprises initializing the recording medium to the defect management on mode, wherein the initialization comprises: assigning a spare area to a data area of the recording medium for replacing a defect generated in the data area of the recording medium (see [0008] for instance); and recording temporary defect management information including information on the assigned spare area and an identifier indicating the defect management on mode, in a temporary defect management area of the recording medium (such as a temporary disc definition structure arranged; also see Figs. 10, 11 and 13).

As per claim 3, refers to recording replacement block for replacing defective blocks in predetermined units, which Ko discloses such units, see Fig. 7).

As per claim 5, Ko shows selection between on and off, hence comprises converting between them.

As per claim 6, it is understood and is implied in KO, since the RAM media, is reinitialized when rewriting the same (see [0045]-[0047]), and further discloses recording the data on the recording medium without defect management when off mode is selected, (see Figs. 8 and 9).

As per claim 8, Ko discloses finalizing by finishing complete recording the medium.

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As per claim 10, refers to recording replacement block for replacing defective blocks in predetermined units, which Ko discloses such units, see Fig. 7).

As per claim 11, Ko discloses finalizing by finishing complete recording the medium.

As per claim 13 correspond to the reproduction process of the recording operation method claim 1, and rejected for the same reasons of anticipation outlined above.

As per claims 14 and 16, it is understood in the reproduction of Ko that if management information was performed or not the same applies at the time of reproducing such information that was recorded or not, base on the on/off selection.

Apparatus claim 28 corresponds to the apparatus performing the method outlined above in claim 13, and is rejected for the same reasons of anticipation.

Apparatus claim 31, to the apparatus performing the method outlined above in claim 14, and is rejected for the same reasons of anticipation.

Claims 39 and 40, recites the method steps similar to the ones treated in the above rejections and are rejected for the same reasons of anticipation.



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Claims 41-46, and 48-53, are drawn to method and corresponding apparatus claims for recording having limitations similar to the ones treated above and are met by the reference above specified by Ko, and rejected for the same reasons of anticipation.

Claim 56 is drawn to the recording medium recorded/use in the above method/apparatus claims and is rejected for the same reasons of anticipation.

As per claim 60, Ko discloses such apparatus.

Claims 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ko US. Patent Application Publication 2002/0105868 in view of Park et al. US Pat. No. 6,477,126 in the alternative or further in view of Ko U.S. Pat. No. 6,367,038.

Ko teaches that a temporary disc definition structure is arranged in the disc but fails to disclose changing the size of the spare area and recording information on a size of a spare area allocated in the data area after the defect management on mode is selected, on the temporary defect management area.

However, this is well known in the art as evidenced by Park et al, which teaches that based on a defect management modes and after a selection between such modes the spare areas are assigned (see Fig. 5), it is well understood that assigning spare areas in the initialization process in Park et al. implies that the disk definition structure is written with the size of such spare areas (see Figures 4 and 6).

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Alternatively, see Ko '038, col. 6, lines 42-54 for instance, which teaches such size information written in such disk definition structure.

It would have been obvious to one of an ordinary skill in the art to write such size information after the mode selection in the initialization process of defect management selection, for the same reasons and benefits of provision for such information well known in the art.

Claims 7, 9, 12, 15, 17, 29-30, 32, 47, 54, 56, 58 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ko US. Patent Application Publication 2002/0105868 in view of Park et al. US Patent Application Publication 20040179445.

Although Ko fails to disclose recording a finalization flag indicating the finalization of the recording medium in the temporary defect management area; recording temporary defect management information including recording finally updated information on the defect and defect management information of the temporary defect management area in a defect management area of the recording medium and filling with predetermined data a remaining area of the temporary defect management area where no data is recorded, as in claim 7, 9 and 12 .

This is the well known process in a write once recording media, as taught by Park et al., see ([0067]). Furthermore, it is well understood that a medium after being finalize a flag information is recorded to identify as such.

Hence, it would have been obvious to one of an ordinary skill in the art to adopt this scheme operation to cope with write once recording medium process.

As per claims 15 and 17, correspond to the reproduction operation of the recording operation as in claim 9 for instance, and is rejected for the same reason of obviousness.

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Apparatus claims 29-30, and 32 are drawn to the apparatus performing method process similar to the ones in claims 9, 12 and 15 and are rejected for the same reasons of obviousness.

Claims 47 and 54 are drawn to method and corresponding apparatus claims of recording having limitations similar to the ones treated above and are met by the reference above specified by Ko, the further limitations regarding recording temporary defect management information including recording finally updated information on the defect and defect management information of the temporary defect management area in a defect management area of the recording medium limitations similar to the ones treated with respect to claims 9 or 12, are rejected for the same reasons of obviousness.

As per claims 56, 58 and 59 the further limitations regarding recording temporary defect management information including recording finally updated information on the defect and defect management information of the temporary defect management area in a defect management area of the recording medium limitations similar to the ones treated with respect to claims 9 or 12, are rejected for the same reasons of obviousness.

***Closing Comments/Remarks***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JORGE L. ORTIZ CRIADO whose telephone number is (571)272-7624. The examiner can normally be reached on Mon.-Fri 10:00 am- 6:30 pm).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea L. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jorge L Ortiz-Criado/  
Primary Examiner, Art Unit 2627